

CARBON MARKET OVERVIEW

- Source: Emissions reduction programs
 - Voluntary and mandatory programs
 - Multinational, national, regional, state and/or local
 - Derivations cap & trade / baseline & credit
- Focus: Finding the least-cost solution for emissions reduction goals
- Anticipated Outcomes: Emissions reduction achievements propelled by an efficient market

CARBON MARKETS IN 2005

Existing Markets:

- European Union Emissions Trading Scheme
- Existing trading mechanisms and established markets in the UK & Denmark
- Chicago Climate Exchange

Future Drivers:

- Climate VISION metric achievement
- Multi-national adoption of Kyoto Protocol (non-applicable in US)
- Over half of the states have developed or are developing strategies to reduce GHG emissions, including northeastern regional initiative
- GHG requirements of insurance and banking industries



GHG MANAGEMENT ACTIVITIES

Offset Projects

- Terrestrial sequestration projects
- Waste-to-energy opportunities
- Future focus: Geologic sequestration projects

Internal Reduction Projects

- Fuel combustion processes
- Fuel transportation processes
- Fuel mixture options

Trades

- Verified emissions reductions
- Emissions reductions
- Tradable instruments



TRANSACTION COSTS

- Definition of transaction costs:
 - Costs that arise from an exchange of goods and services
- Common examples of transaction costs:
 - Transportation Costs
 - Legal Fees
 - Search Costs



CARBON MARKET TRANSACTION COSTS

- Negotiation
- Baseline Determination
- Validation
- Verification
- Monitoring
- Search Costs
- Learning



Reducing Market Barriers

- CO-OP focuses are reducing two key barriers to entry:
 - (1) Search Costs
 - (2) Learning / Education
- Similar focuses for USEPA programs have yielded successes in landfill gas to energy project development (LMOP) and coalmine methane utilization (CMOP)

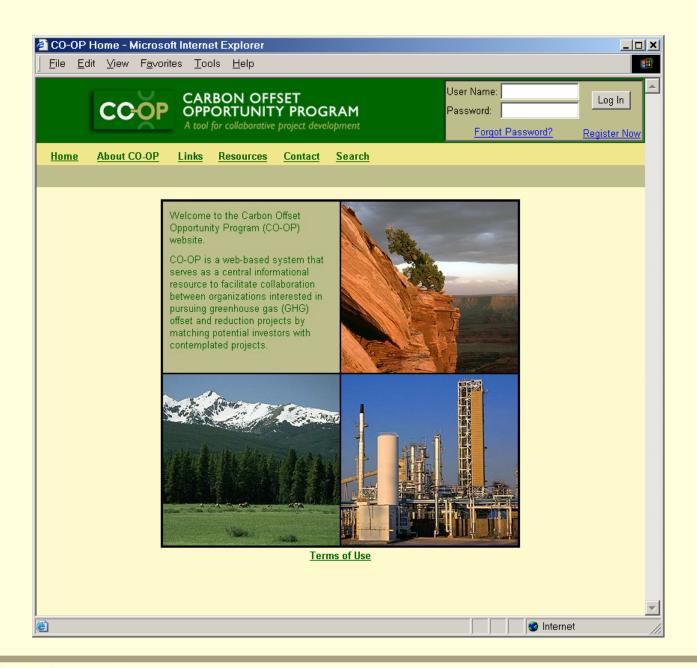
CO-OP BACKGROUND

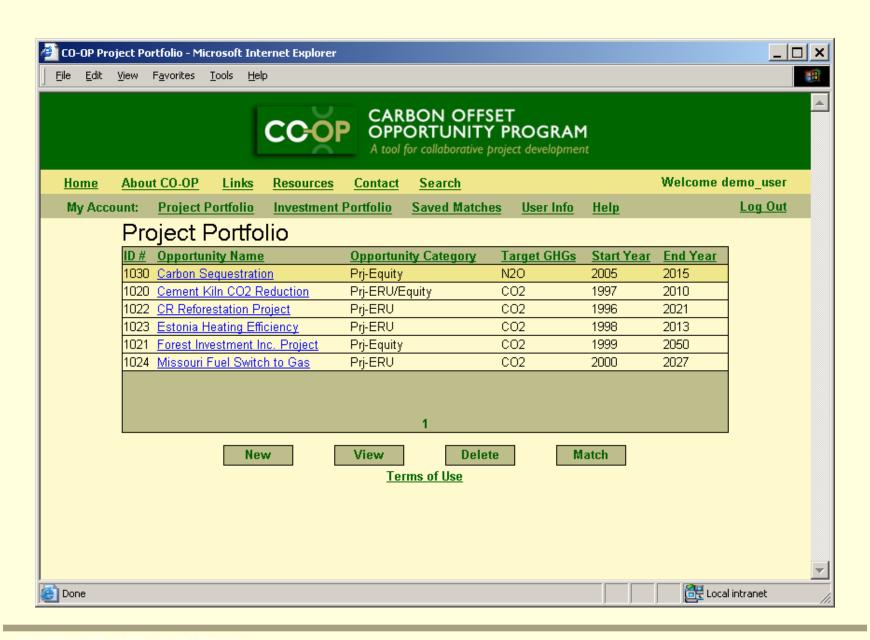
- Research indicated a need for additional GHG emissions management planning tools, especially with regard to carbon sequestration projects
- Developed in collaboration with a group of potential stakeholders
- Primary Goal To assist industry, government, and non-governmental organizations in catalyzing collaborative GHG reduction and offset projects and activities, with a focus on carbon sequestration, in a way that emphasizes voluntary actions

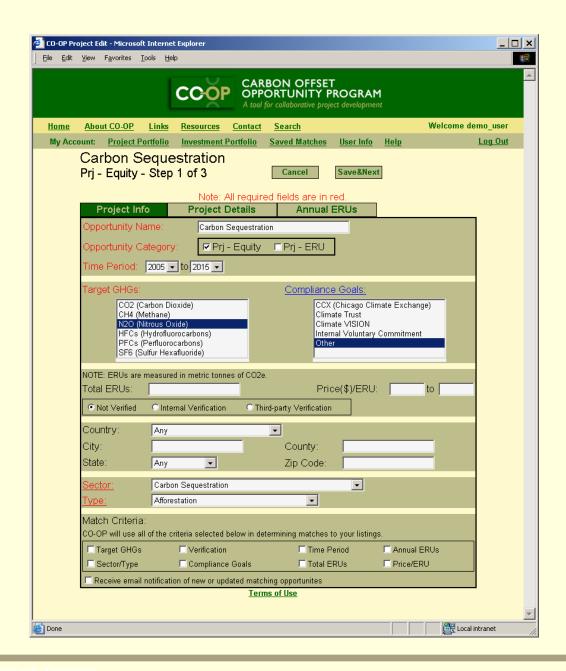
CO-OP OVERVIEW

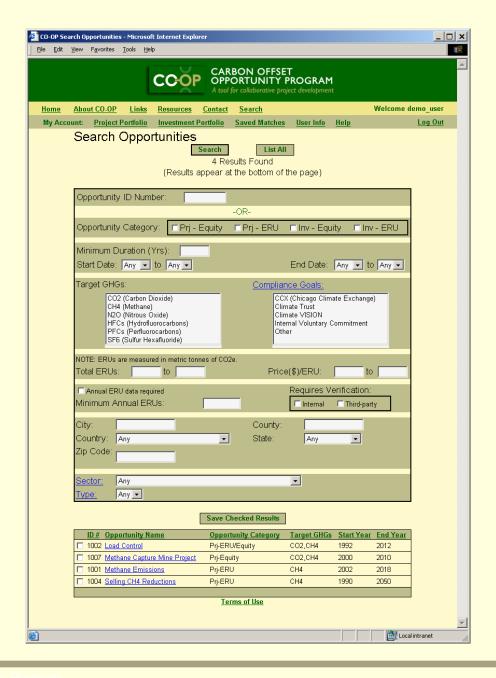
- A web-based system that serves as a central informational resource to match potential investors with contemplated GHG reduction and offset projects
- Stimulates project development
- Provides an educational resource











PROJECT STATUS

- Initial version completed
- National roll-out currently underway, focusing on education and outreach efforts
- Seeking private sponsors to support the program



BENEFITS OF CO-OP

Market benefits of the CO-OP initiative:

- To advance the development of carbon sequestration projects and other climate change initiatives
- Minimize market barriers and reduce search costs

Benefits to potential CO-OP users:

- To be at the forefront of a new, innovative national initiative that facilitates and promotes voluntary GHG reduction and offset projects
- To position organizations as leaders in voluntary GHG emissions management activities
- To foster a positive public perception on GHG issues
- Reduction of search costs for projects and partners



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